

**WHAT IS CLAIMED IS:**

1. A transformer comprising a primary winding, a secondary winding and a rectifier comprising a diode for rectifying voltage induced in the secondary winding, wherein the secondary winding comprises at least two coils, each coil including a rectifier diode as an integrated part of the coil.

2. The transformer according to claim 1, wherein each of the at least two coils is a single turn winding.

3. The transformer according to claim 1, wherein the rectifier diode of each coil comprises a plurality of diodes arranged in parallel to one another.

4. The transformer according to claim 3, wherein each of the at least two coils comprises conductive strips on a printed circuit board, and a connector for electrically connecting the conductive strips of each of the at least two coils.

5. The transformer according to claim 1, wherein the transformer is operable at high voltage.

6. A method of supplying power to a magnetron heater, comprising utilizing the transformer according to claim 1.

7. The method according to claim 6, where the magnetron is a pulsed magnetron.

8. A transformer, comprising: a primary winding, a secondary winding and a rectifier arrangement for rectifying voltage induced in the secondary winding, wherein the secondary winding comprises at least two coils, each coil including a rectifier diode arrangement, wherein the rectifier diode arrangement comprises a plurality of diodes arranged in parallel to one another.

9. A transformer according to claim 8, wherein the plurality of diodes are connected to separate respective secondary windings.

10. A transformer according to claim 9, wherein each of the plurality of diodes and respective secondary windings are connected together in parallel.

11. A transformer according to claim 8, wherein the rectifier diode arrangement is arranged to cool the diodes.